

Project B-211
Technical Report No. 5

ACRYLIC FIBERS
A Manufacturing Opportunity for the Coosa Valley Area

Prepared for
Coosa Valley Area Planning
and Development Commission

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September 1964

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Summary

Northwest Georgia is the center of the tufted carpet industry in the United States. Forty-two carpet plants are located in and near Dalton in Whitfield County, and another 42 facilities are in operation within a 50-mile radius of Dalton. These 84 plants account for 58% of the carpet tufting firms in the United States and produce approximately 62% of the dollar value of all mill shipments in the country.

Although acrylic fibers are not yet consumed in large volume in the manufacture of tufted rugs and carpets, their use by the industry has increased rapidly. After an increase of more than 45% between 1961 and 1962, the consumption of acrylic fibers in the tufted carpet industry more than doubled between 1962 and 1963. It is reported that if acrylic fibers had been available in sufficient quantity in 1963, much of the business that went to wool would have gone to acrylics. Acrylic fiber has wool-like characteristics, is lower priced than wool, and less fiber is required to provide the same density as wool.

Assuming a conservative annual average growth rate of 15%, the demand for acrylic fibers by the tufted carpet industry will double in volume in five years (creating a demand for over 50 million pounds) and triple in eight years. It is concluded, therefore, that the potential market for acrylic fibers in the carpet industry is sufficiently large to support additional manufacturing facilities in the immediate future.

An acrylic fiber plant in northwest Georgia would be at the doorstep of the largest concentration of tufted carpet mills in the country. This would reduce delivery time of the finished product and also place the manufacturer close enough to the tufters for problem solving and research.

The transportation facilities in the Coosa Valley area of northwest Georgia would provide a synthetic fiber plant the services needed for marketing and distribution and for obtaining raw materials and supplies. Labor throughout the area is abundant and is capable of working in a plant which would produce acrylic fibers.

THE TUFTED TEXTILE INDUSTRY IN GEORGIA

History

Tufted textile manufacture has grown from a handicraft operation in the early 1900's to a multimillion-dollar, highly technical industry in the 1960's. The industry was started with the making of a bedspread as a wedding gift in 1895, and it was little suspected that the process used would lead to the establishment of a major industry in this country. With increased consumer demand and accompanying technological advances, the manufacture of tufted products has become one of the major industries in northwest Georgia.

Output

Records on the growth of the tufted products industry were first started in 1951 by the Bureau of the Census, U. S. Department of Commerce. Between 1951 and 1963 the total value of all tufted products, including rugs, carpets, robes, bedspreads and related products, grew from less than \$134 million to more than \$836 million.

In 1963 Georgia led the entire country with tufted textile shipments of \$523.6 million, representing 63% of the total shipments of \$836.3 million for the United States. Georgia firms accounted for 61.8% of the industry's carpet and rug shipments and 71.7% of the industry's shipments of tufted bedspreads, robes, and miscellaneous products. (See Table 1.)

The South accounted for 80% of the industry's total tufted shipments in 1963, with 78.8% of the tufted rugs and carpets and 97% of all tufted bedspreads, robes, and miscellaneous products.

Tufted floor coverings constitute by far the largest portion of the tufted textile industry's dollar-volume output today. Total production of carpets and rugs larger than 4' x 6' has grown from 6 million to 210 million square yards in the 13-year period from 1951 to 1963.

Concentration

Approximately 143 tufted carpet manufacturers in the United States produce carpets and rugs larger than 4' by 6'. The distribution of these plants is as follows: 104 plants in the South, 20 in California, 8 in Pennsylvania, and 11 in the remainder of the country. (See Map 1.) Of the 104 manufacturing

Table 1
TUFTED PRODUCTS SHIPMENTS BY STATES AND REGIONS, 1963

	<u>Tufted Rugs, Carpets</u>	<u>Bedspreads, Robes, etc.</u>	<u>All Tufted Products</u>
Georgia	\$480,190,000	\$43,391,000	\$523,581,000
Pennsylvania	-	-	90,477,000
California	52,835,000	-	52,835,000
Tennessee	-	-	34,650,000
North Carolina	-	-	8,067,000
South	\$611,406,000	\$58,974,000	\$670,380,000
Northeast and North Central	111,517,000	1,525,000	113,042,000
West	<u>52,835,000</u>	<u>-</u>	<u>52,835,000</u>
U. S. Totals	\$775,758,000	\$60,499,000	\$836,257,000

Source: U. S. Department of Commerce, Bureau of the Census, Current Industrial Reports, M22L(63)-2, April 20, 1964.

facilities in the South, 84 are located in Georgia. In addition, most of the tufted bedspreads and robes are made in Georgia.

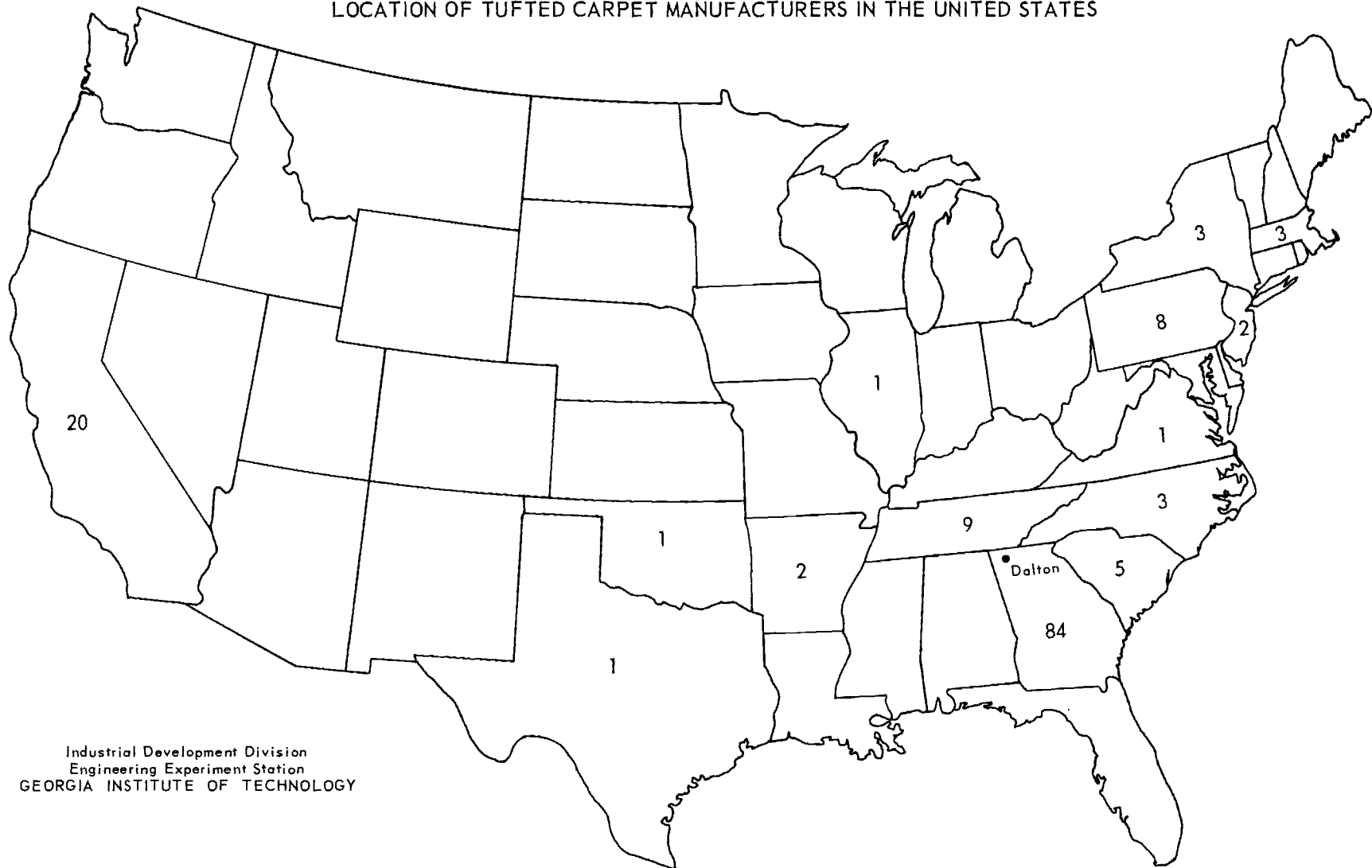
Dalton, located in the extreme northwest section of Georgia in Whitfield County, is the center for the tufted carpet industry, having the nation's largest concentration of manufacturing facilities and service industries related to the tufted industry. (See Map 2.) Forty-two carpet plants are located in Dalton and in the county, just minutes from Dalton, and another 42 facilities are in operation within a 50-mile radius of Dalton. These 84 plants account for 58% of the carpet tufting firms in the United States and produce approximately 62% of the dollar value of all mill shipments in the country.

Outlook

The controlling factor determining the ultimate growth of the tufted products industry will be consumer demand. Tufted floor coverings, which came into their own in 1951, have experienced a growth far beyond expectations. The value of production in the tufted carpet industry has grown from \$19 million in 1951 to \$775 million through 1963. Shipments of \$310 million in the spring of

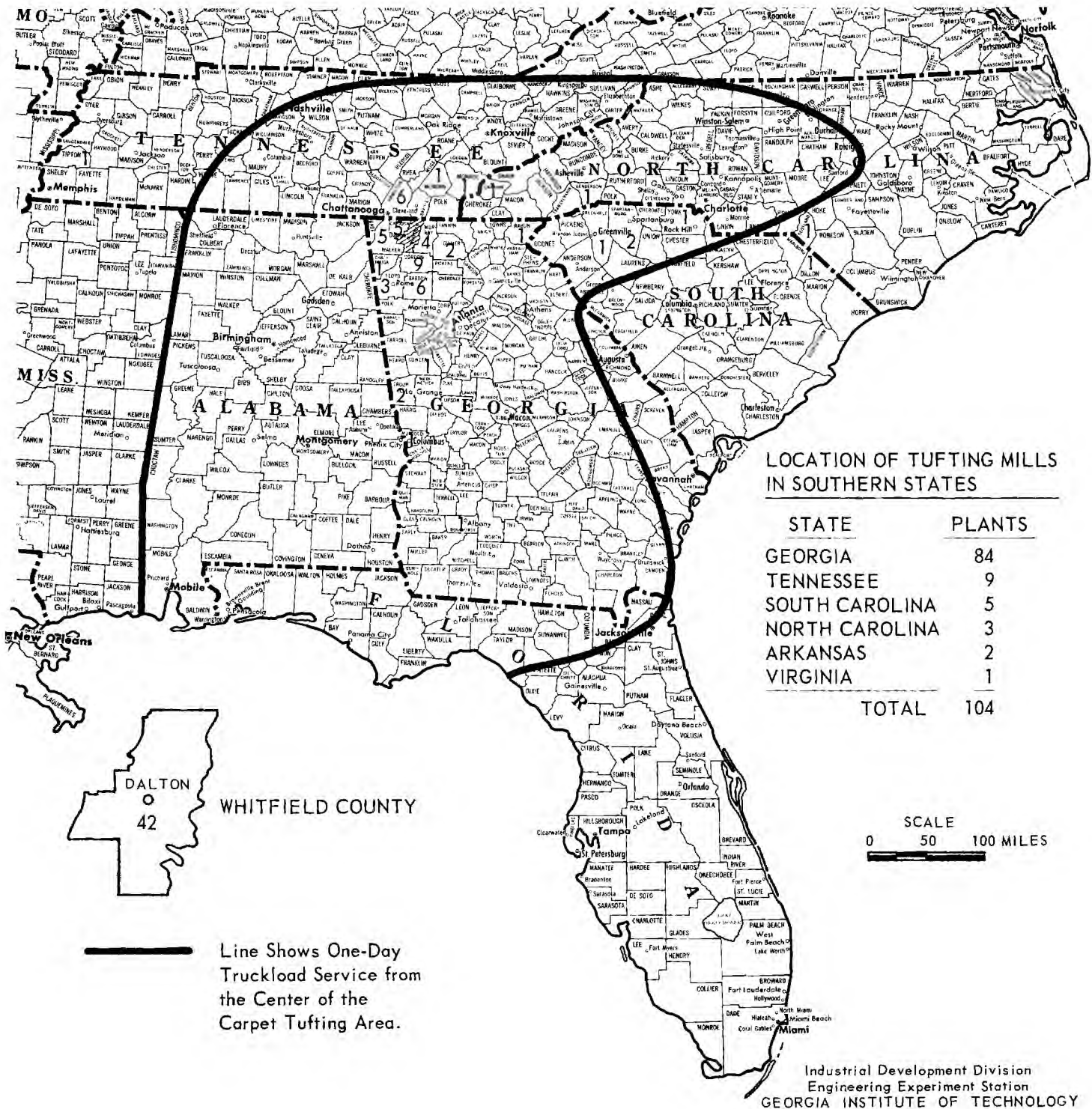
MAP 1

LOCATION OF TUFTED CARPET MANUFACTURERS IN THE UNITED STATES



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MAP 2 LOCATION OF TUFTED CARPET MANUFACTURERS IN THE SOUTHERN UNITED STATES



1963, 16% above those of the spring of 1962, were greater than the full year's production for 1959.

Since 1951, when records were first maintained, the value of carpet mill shipments has doubled every five years. The outlook for mill shipments is for an increase of 14% during the 1964 production year. If the annual rate of growth continues at 14%, the manufacture of tufted carpets could become a billion-dollar industry by the end of 1965.

At the time of this report, several new tufted carpet manufacturing facilities are under construction in the Dalton area. Many existing firms in the area have expansion plans underway or scheduled for construction in the near future. In light of these activities, the Dalton area is certain to retain its dominance in the manufacture of tufted carpets.

THE OPPORTUNITY FOR ACRYLIC FIBER MANUFACTURE

Consumption of Acrylic Fibers in the Tufted Carpet Industry

Synthetic and man-made fibers represent the bulk of the fibers consumed in the manufacture of tufted rugs and carpets, but to date acrylic fibers have not been among the large volume fibers in the industry. Growth, however, has been rapid. After an increase of more than 45% between 1961 and 1962, the consumption of acrylic fibers in the tufted carpet industry more than doubled between 1962 and 1963. (See Table 2.)

Table 2
YARNS AND FIBERS CONSUMED IN THE MANUFACTURE
OF TUFTED RUGS AND CARPETS, 1960-1963
(in thousands of pounds)

<u>Type of Yarn</u>	<u>1963</u>	<u>1962</u>	<u>1961</u>	<u>1960</u>
Cotton	36,740	44,301	44,611	49,020
Rayon and/or acetate	97,769	97,691	77,994	75,177
Wool and chiefly wool	66,312	53,916	51,535	55,940
Nylon			60,889	32,611
Nylon filament	93,567	67,758		
Nylon spun	34,427	25,999		
Acrylic and modacrylic	27,355	13,476	9,243	9,970
Other tufting yarns ^{1/}	5,533	3,771	1,101	1,024
Total Tufting Yarns	361,703	306,912	245,373	223,742

1/ All other fibers used are included in other tufting yarns.

Source: U. S. Department of Commerce, Bureau of the Census, Current Industrial Reports, M22L(63)-2, April 20, 1964; M22L(62)-2, April 30, 1963; M22L(61)-2, May 1, 1962; M22L(60)-2, April 26, 1961.

The demand for acrylic fibers by the tufted manufacturers has made it necessary for acrylonitrile plants (those which produce the raw material to make acrylic fibers) to operate above their present rated capacity of 540 million pounds. Carpet manufacturers have indicated that the consumption of acrylic fibers in 1963 would have been greater than the consumption of cotton if the

fibers had been available. It is also reported that if acrylic fibers had been available in sufficient quantity in 1963, much of the business that went to wool would have gone to acrylics. Actually, wool consumption in the carpet industry increased in volume as much as did acrylic fibers in 1963. Acrylic fiber has wool-like characteristics, is lower priced than wool, and less fiber is required to produce the same density as wool.

Potential Market for Acrylic Fibers in the Tufted Carpet Industry

It is not possible to make a reliable projection of the carpet industry's future demand for acrylic fibers based on past consumption figures. The history of the use of acrylic fibers in carpet manufacture is too short to provide the basis for a trend determination, and percentage increases in consumption in recent years are too high to be considered typical.

Carpet industry spokesmen tend to be cautious about forecasting demand for acrylic fibers over the long run. They foresee a 15% average annual increase, even though the substantial pent-up demand at present suggests the possibility of a much greater rate of growth. This 15% increase is only slightly higher than the present annual average increase in carpet sales. The 14% annual rate of growth of the carpet industry cannot be expected to continue indefinitely, however.

At an annual average growth rate of 15%, the demand for acrylic fibers by the tufted carpet industry will double in volume in five years (creating a demand for over 50 million pounds) and triple in eight years. It is evident, therefore, that the potential market for acrylic fibers in the carpet industry is sufficiently large to support additional manufacturing facilities in the immediate future.

A NORTHWEST GEORGIA LOCATION FOR AN ACRYLIC FIBER PLANT

Location in the Market Area

An acrylic fiber manufacturing facility in northwest Georgia would be at the doorstep of the largest concentration of tufted carpet mills in the country. The Dalton area, which takes in all plants in a 50-mile radius of Dalton, includes 77 plants in Georgia and seven in Tennessee, comprising 74% of all the tufted carpet manufacturing facilities in the South. This makes this particular area ideally situated for any new carpet-oriented manufacturing facility.

Especially important to a synthetic fiber plant would be the opportunity for close contact with a large variety of manufacturers for problem-solving and research. From time to time there will be areas where both fiber and carpet people will have to work hand in hand to develop a quality item. Research should be facilitated by the proximity of the supplier to the end-users.

Transportation Facilities

The transportation facilities in the Coosa Valley area would provide a synthetic fiber plant the services needed for marketing and distribution and for obtaining raw materials and supplies.

Truck Service. The majority of shipments from a synthetic fiber plant would be made by truck. Using Dalton as a center, Map 2 shows cities and areas to which truckload shipments may be sent in one day, or overnight. Approximately 68% of the carpet manufacturers in the United States can be reached in one day's time. Direct single-line service between major U. S. cities and the Dalton area is furnished by numerous interstate carriers. Dalton has a total of 38 motor carriers certificated for interstate operating rights to transport general commodities with the usual exceptions. The large number of carriers creates competition for freight which tends to reduce rates and improve service.

The northwest area of Georgia has good highway access to the immediate area and to the neighboring states. Interstate Highway 75, now under construction, will pass through the center of the more concentrated carpet tufting area and will allow for faster deliveries.

Rail Service. Raw materials for a manufacturer of acrylic fibers would be brought in primarily by rail. The Dalton area of northwest Georgia is served by two railroad lines, the Southern Railway System and the Louisville & Nashville Railroad.

Trailer-on-flatcar rail service, better known as "piggyback," is available at Dalton from both railroads. Of the five basic piggyback plans, plans 2 and 3 are the standard service in Dalton. Under plan 2, the railroad owns or leases trailers and bills the shipper direct for its services at rates competitive with those charged by trucking firms. The railroad provides door-to-door service and deals with the shipper on a direct basis. Plan 3 provides that railroads carry trailers owned or leased by shippers, at a flat rate per mile. The shipper delivers trailers to the railroad, and the railroad puts them aboard flatcars, ties them down, transports them to their destination, and grounds them. The shipper picks them up at the rail terminal.

Air Service. Northwest Georgia is served by three commercial airports -- the Atlanta Municipal Airport, located 45 miles south of the Coosa Valley area; the Chattanooga Airport in Tennessee, which is 15 miles to the north of the Coosa Valley area; and Russell Field in Rome, 40 miles south of Dalton. There are three smaller fields for itinerant air traffic, and two new air fields are in the planning stage. This should be of particular interest to management in cases where travel between plants is important.

Labor

The labor market area for this section of northwest Georgia includes the four counties which surround Dalton and Whitfield County. According to the Georgia State Employment Service, there are approximately 6,000 people who would be available for industrial employment should suitable work be available. Employers in the area consider the local labor to be of high quality and above average in individual productivity and loyalty.

Furthermore, a number of workers in the area are already skilled in operations similar to those involved in the manufacture and processing of acrylic fibers. Many workers in the area commute to a rayon and acetate fiber plant in Rome, 45 miles south of Dalton, and to a nylon fiber plant in Chattanooga, 35 miles north of Dalton. Presently, there are more than half a dozen chemical firms which maintain either warehouses or laboratories and a greater number of

latex-oriented firms located in Dalton. These operations are a part of the vast number of manufacturers and service industries which supply the tufted carpet mills in and around Dalton.

CONCLUSION

The location of a plant to manufacture acrylic fibers for the tufted carpet industry in the northwest Georgia area appears to be quite feasible because of the closeness of the market.

The immediate accessibility to 58% of the nation's carpet tufters who produce 62% of the carpet shipments in the country would assure a manufacturer of a sizable portion of the acrylic fiber market.

Community services and utilities throughout this area and a sizable labor supply are adequate to support a facility of this nature in the Coosa Valley area.